

LISTING OF THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1 (currently amended): High burring, high strength, hot-rolled steel sheet excellent in softening resistance of the weld heat affected zone characterized by ~~containing~~ consisting essentially of,

by wt%,

C: 0.01 to 0.1%,

Si: 0.01 to 2%,

Mn: 0.05 to 3%,

P≤0.1%,

S≤0.03%,

Al: 0.005 to 1%,

N: 0.0005 to 0.005%, and

Ti: 0.05 to 0.5%

and further containing C, S, N, Ti, Cr, and Mo in ranges satisfying

$0\% < C - (12/48Ti \text{ } [[-]] + 12/14N - 12/32S) \leq 0.05\%$ and

$Mo + Cr \geq 0.2\%$, $Cr \leq 0.5\%$, and $Mo \leq 0.5\%$,

the balance comprising Fe and unavoidable impurities, wherein the microstructure is composed of only bainitic ferrite and bainite.

2 (currently amended): High burring, high strength, hot-rolled steel sheet excellent in softening resistance of the weld heat affected zone according to claim 1, characterized in that

said steel further ~~contains~~ consisting essentially of, by wt%,

Nb: 0.01 to 0.5%

and further contains Nb in a range satisfying

$$O\% < C - (12/48Ti - 12/93Nb \text{ [[-]]} + 12/14N - 12/32S) \leq 0.05\%,$$

the balance comprising Fe and unavoidable impurities.

3 (currently amended): High burring, high strength, hot-rolled steel sheet excellent in softening resistance of the weld heat affected zone as set forth in claim 1 or 2, characterized by further ~~containing~~ consisting essentially of, by wt%, one or two of Ca: 0.0005 to 0.002%, a REM: 0.0005 to 0.02%, ~~Cu: 0.2 to 1.2%, Ni: 0.1 to 0.6%~~ and B: 0.0002 to 0.002%.

4 (previously presented): High burring, high strength, hot-rolled steel sheet excellent in softening resistance of the weld heat affected zone as set forth in claim 1 or 2, characterized by being automotive thin steel sheet coated with zinc.

5 (withdrawn): A method of production of high burring, high strength steel sheet excellent in softening resistance of the weld heat affected zone characterized by hot rolling a slab having the ingredients for obtaining the thin steel sheet as set forth in claim 1 or 2 at which time ending finish rolling at a temperature region of the Ar_3 transformation point temperature + 30°C or more, then cooling within 10 seconds by a cooling rate of an average cooling rate until the end of cooling of 50°C/sec or more until a temperature region of 700°C or less, and coiling at a coiling temperature of 350°C to 650°C.

6 (withdrawn): A method of production of high burring, high strength steel sheet excellent in softening resistance of the weld heat affected zone characterized by hot rolling a slab having the ingredients for obtaining the thin steel sheet as set forth in claim 1 or 2, pickling it, cold rolling it, then holding it at a temperature region of 800°C or more for 5 to 150 seconds, then cooling it by a cooling rate of an average cooling rate of 50°C/sec or more until a temperature region of 700°C or less as a heat treatment process.

7 (withdrawn): A method of production of high burring, high strength steel sheet excellent in softening resistance of the weld heat affected zone as set forth in claim 5, characterized by dipping the steel sheet in a zinc coating bath after the end of the hot rolling process to coat the surface with zinc.

8 (withdrawn): A method of production of high burring, high strength steel sheet excellent in softening resistance of the weld heat affected zone as set forth in claim 6, characterized by dipping the steel sheet in a zinc coating bath after the end of the heat treatment process to coat the surface with zinc.

9 (withdrawn): A method of production of high burring, high strength steel sheet excellent in softening resistance of the weld heat affected zone as set forth in claim 7, characterized by alloying after dipping the steel sheet in a zinc coating bath for coating zinc.

10 (currently amended): High burring, high strength, hot-rolled steel sheet excellent in softening resistance of the weld heat affected zone as set forth in claim 1 or 2 characterized by ~~containing~~ consisting essentially of,

by wt%,

C: 0.01 to 0.1%,

Si: 0.01 to 2%,

Mn: 0.05 to 3%,

P≤0.1%,

S≤0.03%,

Al: 0.005 to 1%,

N: 0.0005 to 0.005%, and

Ti: 0.05 to 0.5%

and further containing C, S, N, Ti, Cr, and Mo in ranges satisfying

$0\% < C - (12/48Ti + 12/14N - 12/32S) \leq 0.05\%$ and

$Mo + Cr \geq 0.2\%$, $Cr \leq 0.5\%$, and $Mo \leq 0.5\%$,

the balance comprising Fe and unavoidable impurities, wherein the microstructure is composed of only bainitic ferrite and bainite and the bainitic ferrite and bainite structures contained in the hot-rolled steel sheet before welding not including carbides inside ferrite laths and between ferrite laths other than Ti and Nb carbides.